Handheld Omnidirectional Laser Scanner

User's Manual

590-33060E-001

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Radio Notice
This equipment generates uses and can radiate radio frequency energy. If not installed and used in accordance with the instructions in this manual, it may cause interference to radio communications. The equipment has been tested and found to comply with the limits for a Class A computing device pursuant to EN55022 and 47 CFR, Part 2 and Part 15 of the FCC rules. These specifications are designed to provide reasonable protection against interference when operated in a commercial environment.
Radio and Television Interference
Operation of this equipment in a residential area can cause interference to radio or television reception. This can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:
Reorient the receiving antenna.
Relocate the device with respect to the receiver.
Move the device away from the receiver.
Plug the device into a different outlet so that the device and the receiver are on different branch circuits.
If necessary the user may consult the manufacturer, and authorized dealer, or experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful: “How to Identify and Resolve Radio-TV Interference Problems.” This booklet is available from the U.S. Government Printing Office, Washington, DC 20402 U.S.A., Stock No. 004000003454.

For CE-countries
This scanner is in conformity with CE standards. Please note that an approved, CE-marked power supply unit should be used in order to maintain CE conformance.

Laser Safety

The laser scanner complies with safety standard IEC 60825 -1for a Class I laser produce. It also complies with CDRH as applicable to a Class IIa laser product. Avoid long term staring into direct laser light.

Radiant Energy: The laser scanner uses one low-power visible laser diodes operating at 650nm in an opto-mechanical scanner resulting in less than 3.9μW radiated power as observed through a 7mm aperture and averaged over 10 seconds.

Do not attempt to remove the protective housing of the scanner, as unscanned laser light with a peak output up to 0.8mW would be accessible inside.

Laser Light Viewing: The scan window is the only aperture through which laser light may be observed from this product. A failure of the scanner motor, while the laser diode continues to emit a laser beam, may cause emission levels to exceed those for safe operation. The scanner has safeguards to prevent this occurrence. If, however, a stationary laser beam is emitted, the failing scanner should be disconnected from its power source immediately.

Adjustments: Do not attempt any adjustments or alteration of this product. Do not remove the protective housing of the scanner. There are no user-serviceable parts inside.

Caution: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Optical: The use of optical instruments with this product will increase the eye hazard. Optical instruments include binoculars, magnifying glasses, and microscopes but do not include normal eye glasses worn by the user.

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1. Instruction

The scanner, combining with omnidirectional scanning performance and handheld convenience, it is ergonomically facilitates scanning of large items that is unable to be presented to any counter-top scanner. It is also equipped with single line scanning capability and in stand operation with exclusively designed adjustable stand to benefit for any kind of applications required. The scanner has a built-in high speed decoder and instantly decodes any popular 1D symbology and optional in decoding of RSS group barcodes. It is also equipped with multi-interface communication, which supports RS-232, keyboard and as well as USB interface.

The reading status can be checked with the LED indicator, and buzzer. The scanner operates with +5VDC from Host or external power supply unit.

The scanner includes key features as,

- Button switch in between omnidirectional and single–line scanning capability, ideal for increasing your operating efficiency.
- Powerful 20-line scan pattern yields
  - 1400 scans per second for omnidirectional scanning
  - 74 scans per second for single-line scanning
- Implement with the proprietary real-time hardware decoding technology that ensures instant recognition and decoding barcodes
- Ideal for applications at:
  - Retail
  - Point-of-Sale
  - Logistic tracking
  - Administration
  - Inventory control
  - Manufacturing

2. Unpacking

The handheld omnidirectional scanner package contains:

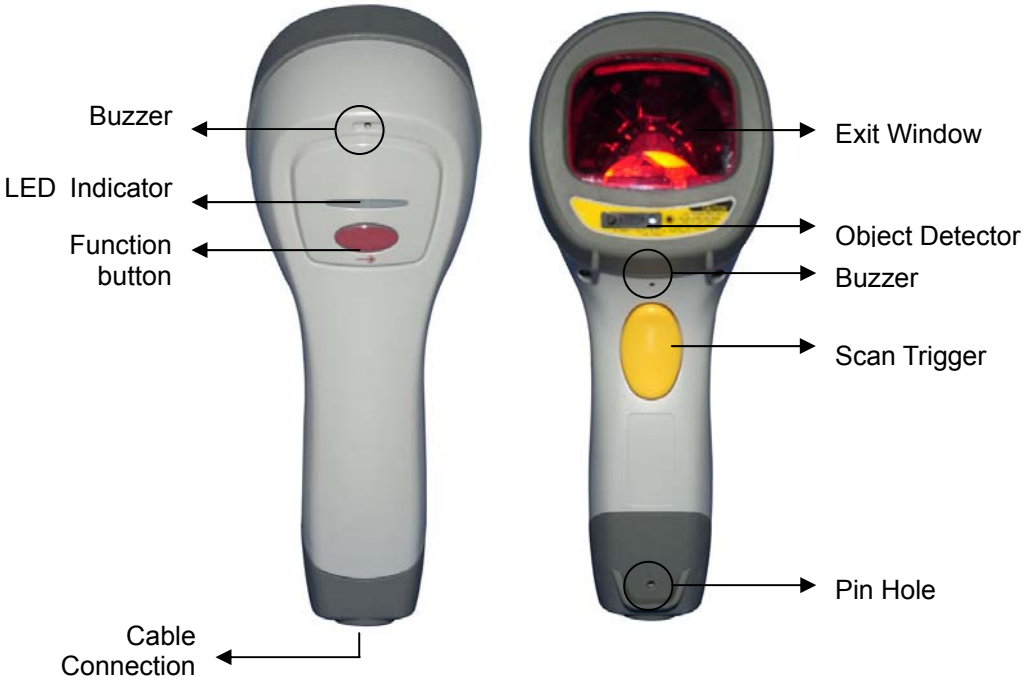
1 ea.	Handheld omnidirectional scanner
1 ea.	Scanner stand
1 ea.	Communication cable
1 ea.	Power adapter (only for specific RS-232 cables)
1 ea.	User's manual

If any contents are damaged or missing, please contact your dealer immediately.

Please leave this user's manual within easy access of person using the scanner.

3. Outline

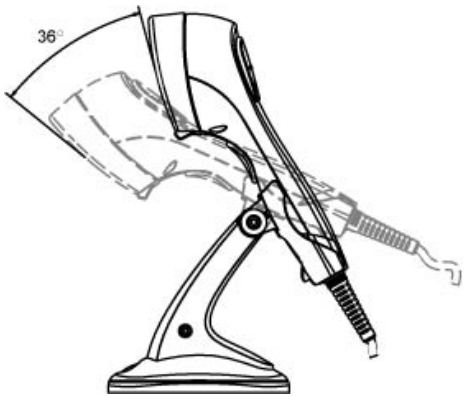
3-1. Scanner Outline



Description	Function
Exit Window	Reads barcodes
Object Detector	Trigger and wake up scanner when presenting barcode in its range
Beeper	For beep tone indication
Scan Trigger	Trigger to make data capture
Pin Hole	Use pin to loose interface cable
LED Indicator	When power is on, LED turns Red; for a good read, green light blinks.
Switching button	Push down to make switch between single-line and omnidirectional scanning.
Cable Connection	For interface communication cable connection.

3-2. Stand Outline

Gently set the device into the stand in the direction shown by arrow. The stand supports the device as hands-free mode and it tilts in 36° angle range shown as below.



4. Connecting

4-1. Power

The scanner requires a minimum of 250mA at 5 VDC power. The interface cable that comes with the scanner supports both direct power (where the scanner takes power from the host machine) and external power (that's what the supplied power adapter is for). A sufficiently robust POS system can support a scanner successfully without external power; a POS system with a barely adequate power supply may produce erratic performance (either of the POS system itself, or of the scanner, or both) when a scanner is attached. Unless you are sure your POS system can candle such loading, it is recommended that you use the supplied power adapter. When an external adapter is connected, the scanner does not take power from the host.

The scanner turns on when power is supplied, and turns off when power is removed. There is no on/off switch on the scanner itself.

Use only an AC/DC power adapter approved for the scanner. Use of other power supplies may cause damage to the scanner, and void the factory warranty.

4-2. Verifying Scanner Operation

Please follow the procedure below to verify scanning operation.

1. Insert the 10-pin modular plug of the Interface cable into the scanner until a firm click is heard.
2. Plug the power adapter into the jack on Interface cable if necessary.
3. Plug the AC end of the power adapter into an AC outlet, or plug the other end of cable into host if power adapter is not needed. The scanner powers up, the buzzer sounds four beeps and the LED indicator glows.
4. Present a known-good test barcode to the scanner. The scanner should issue a short beep and the LED should flash red momentarily. [if the scanner is connected to a keyboard wedge for this test, it should read one barcode, beep, then remain with a red LED indicating light. This is normal when the keyboard wedge is not connected to a live host terminal.]

Note: if the scanner does not produce any beeps, or produces the wrong beeps, or the LED does not light up, remove the power connection and refer to the section on Troubleshooting.

4-3. Connecting to the Host

The interface cable comes with different host-end connectors, depending on the host. Follow the steps below to connect the interface cable to the host.

1. Make sure that the power of the host system is off.
2. Connect the host end of the interface cable to the appropriate connector on the host system.
3. For those cases where external power is used, plug the external AC power adapter into the jack on the interface cable.
4. Turn on the host system.

5. Setting up the Scanner

In certain cases no setup is required. The scanner is either pre-programmed to suit the situation, or it automatically detects and is ready to go. In other cases the scanner must be informed about what kind of system it is connected to. This can be done in a few moments using the programming barcodes enclosed in the later sections of this booklet.

The programming section may be used to set a number of parameters on the scanner: communication interface type (RS-232, Keyboard, USB), beep tone, sleep mode timings, same-code delay time, enable/disable decoding of numerous code types, and more advanced things like set headers and trailers.

Individual parameters may be set at any time without affecting the other parameters.

5-1. Scan Test

1. With the scanner running (LED blue) and the host system on, try to scan several known-good barcodes.
2. Check the results on the POS screen. If the scanner is reading okay, no further setup may be necessary.
3. If the POS screen does not show the expected scans, go to Set Up, below.

5-2. Set Up

With the scanner running (LED blue) and the host system on, present the <Start of configuration> barcode, found in the programming section, to the scanner. The scanner gives two beeps: low and high, and the LED turn red. The scanner is in programming mode.

Decide which parameters are required and find their barcodes in the programming section.

Cover unwanted codes with your hand and present the desired codes, one by one, to the scanner, the scanner beeps once as it accepts each code.

When done, again present the <End of configuration> barcode. The scanner beeps twice, once long and once short, and the LED returns to blue. The scanner has been programmed.

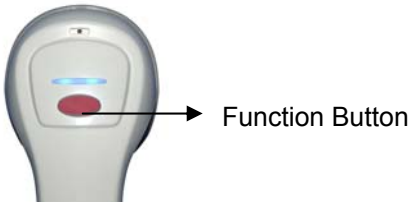
Test again with known-good barcodes. If results are good, you are done setting up. Otherwise, return to step 1 and try again.

6. Operating the Scanner

The scanner can read barcodes in either omnidirectional or single-line mode to accommodate different requirements. This scanner is truly omnidirectional while single-line mode is usually used for better aiming on the specific barcode on the same sheet of more than one barcode printed closely.

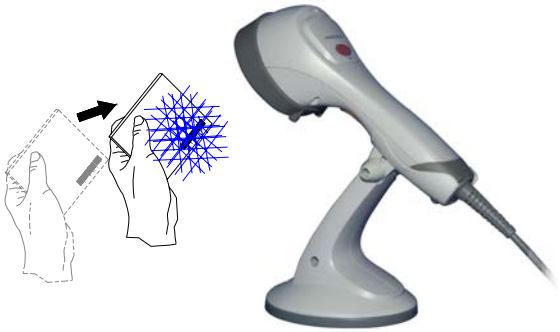
6-1. Function Button

Press down the Function Button on top of the scanner as shown below to switch between omnidirectional scanning and single-line scanning modes.



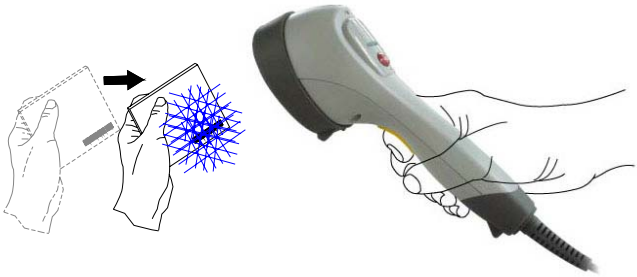
- **If the scanner is powered off and re-turned on, even the function button is pushed down before it's turned off, the scanner stays as factory default (omnidirectional scanning). Hence, in order to have single-line scanning, the function button has to be pressed up and pressed down again.**

1) Presentation Mode:
As if the scanner is on the stand, the scanner will always stay active in Presentation Mode. In other words, no matter if the Function Button LED light is on or off, the scanner stays in the Presentation Mode.

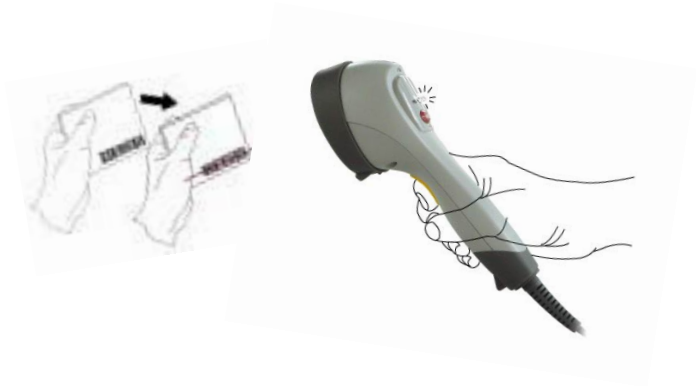


2) Multi-Line Scan Mode:
As if the scanner is not on the stand as well as the Function Button is not pushed down (which Function Button LED is off), the scanner is in Multi-Line Scan Mode by pressing the trigger button to decode.

The below illustrates the operation on large bulky items without aiming on the barcodes.



3) Single-Line Scan Mode:
As if the scanner is not on the stand and the Function Button is pushed down (which Function Button LED is on), the scanner is in Single-Line Scan Mode. By pressing the trigger button and aiming on the barcode to be scanned, the scanner will start scanning and decoding. This mode applies to several barcodes parallel to each other or when it is necessary to aim on barcodes.



6-2. LED Indications

A dual color red-blue LED indicates operating status as follows:

LED status	Indication
Off	No power supplied to the scanner
Steady blue light	The scanner is on and ready to scan
One red flash	A barcode has been successfully decoded.
Steady red light	A barcode has been successfully decoded, but the object is not removed from the scan window.
	The scanner is in programming mode.
Flashing blue light	The scanner is in sleep mode.
Steady Purple light	This indicates the scanner has a motor or laser failure. For motor failure, a periodic beep is sounded. Return the unit for repair.
Alternate flashing red and blue light	The scanner detects failing power. Please check the power supply.

6-3. Beeps

A beeper gives audible feedback on scanner operation.

Beeps	Indication
One beep	A barcode has been successfully decoded.
Four beeps in series	This indicates the scanner passed the power on self-test and is operating properly.
Two beeps: low-high	The scanner has entered programming mode.
Two beeps: same tone	Scanner has returned from programming to normal mode.
Continuous tone	This is a failure indication. Return the unit for repair.

6-4. Sleep Mode

After the scanner has been inactive for a period of time, the laser automatically turns off; then the motor will turn off and the scanner will enter into “Sleep Mode”, the blue status LED blinks once as indication. To wake up the scanner, simply present an object close to the exit window, or press the trigger button.

Note: The scanner includes a motion sensor that detects activity in front of the scan window. The detecting distance is up to about 15cm (6 inches) from the scan window,

7. Maintaining the Scanner

The scanner is designed for long-term trouble-free operation and rarely requires any maintenance. Only an occasional cleaning of the scanner window is necessary in order to remove dirt and fingerprints.

7-1. Cleaning the Scan Window

Wipe the scan window with a soft lint-free cloth and a non-abrasive cleaner to avoid scratching and damaging the scan window. The scan window may be cleaned while the scanner is running.

7-2. Replacing the Interface Cable

The standard interface cable is attached to the scanner with an 10-pin modular connector. When the connector is properly seated, it is secured in the scanner handle by a flexible retention tab. The cable is designed to be field replaceable.

Replacement cables can be obtained from your authorized distributor.

To replace the cable, take the following steps.

1. Make sure that the power of your computer is switched off, and if a power adapter is used, disconnect it from the scanner cable.
2. Disconnect the old scanner cable from the computer system.
3. Locate the small hole at the bottom of the scanner. (Shown as indicated)
4. Use a metallic pin and insert into the hole.
5. Gently pull out the interface while pressing down the hole by pin. The cable should come out.
6. Insert the new interface cable into the bottom of the scanner until it clicks.
7. Plug the new cable into the host.
8. If a power adapter is used, plug the power adapter into the jack on the interface cable.

8. Troubleshooting

Problem	Diagnostic Tips
The scanner is on but cannot read barcodes. The LED stays blue.	The scanner window is dirty. Clean the scanner window as described in the "7. Maintaining the Scanner" section.
	The presented barcode type is not enabled. Use the Programming section to tell the scanner to accept that type of barcode.
	The host has disabled the scanner. Check host setup.
	The barcode type presented is not supported by the scanner.
The scanner is on, but the motor is not running; the facet wheel is not rotating. A barcode cannot be read. The LED is intermittently flashing blue.	The scanner has entered into the sleep mode. Press the push button on the front of the scanner to wake up the scanner, or present an object close to the scan window.
The LED remains purple	Possible failure of the scanning safeguard circuit. Disconnect the scanner from its power source immediately and contact your dealer.
The scanner does not accept more than two or three barcode labels.	There is no proper handshaking with the POS system. Switch on the POS system and check connection and communication settings.
	A stray barcode is sitting somewhere in the scanner field of view. Remove all barcode labels from the scanner's scan volume and try again.
	The scanner cannot send the data to the POS system. Make sure that all cables are connected and your POS system is ready to receive data.
A barcode is read by the scanner but not accepted by the POS system.	The communication cable is not connected to the correct port of your POS system. Refer to the manual of your POS system to locate the serial port.
	The communication settings of the system and scanner do not match. Adjust the settings so they match.
	The communication cable does not suit your POS system. Contact your dealer for the correct communication cable.
	The software running on the POS system does not support the data format of the barcode label.

9. Programming Guide

Scanning a series of programming bar code labels can configure the scanner. This allows decoding options and interface protocols to be tailored to a specific application. The configuration is stored in non-volatile memory and will not be lost by removing power from the scanner.

The scanner must be properly powered before programming. For RS-232C type scanners, an external power adapter must be used to supply DC power to the scanner. If a keyboard emulation type scanner is used with an IBM PC/ AT, PS/2 or any fully compatible computers, power will be drawn from the keyboard port. No external power adapter is required. If keyboard emulation type scanner is used with any other non IBM PC compatible computers, an external power adapter may be needed.

During the programming mode, the laser scanner will acknowledge a good and valid reading with a short beep. It will give long beeps for either an invalid or bad reading.

9-1. Programming Options

Programmable options are divided into four groups. The first group includes the options that show the general behavior of the laser scanner. The second group governs the operation of RS-232C type serial ports. The third group selects the keyboard type that the keyboard emulation type will be emulated. The last group sets the decoding parameters for each barcode symbology.

9-2. Default Parameters

This table gives the default settings of all the programmable parameters. The default settings will be restored whenever the "Reset" programming label is scanned and the laser scanner is in programming mode.

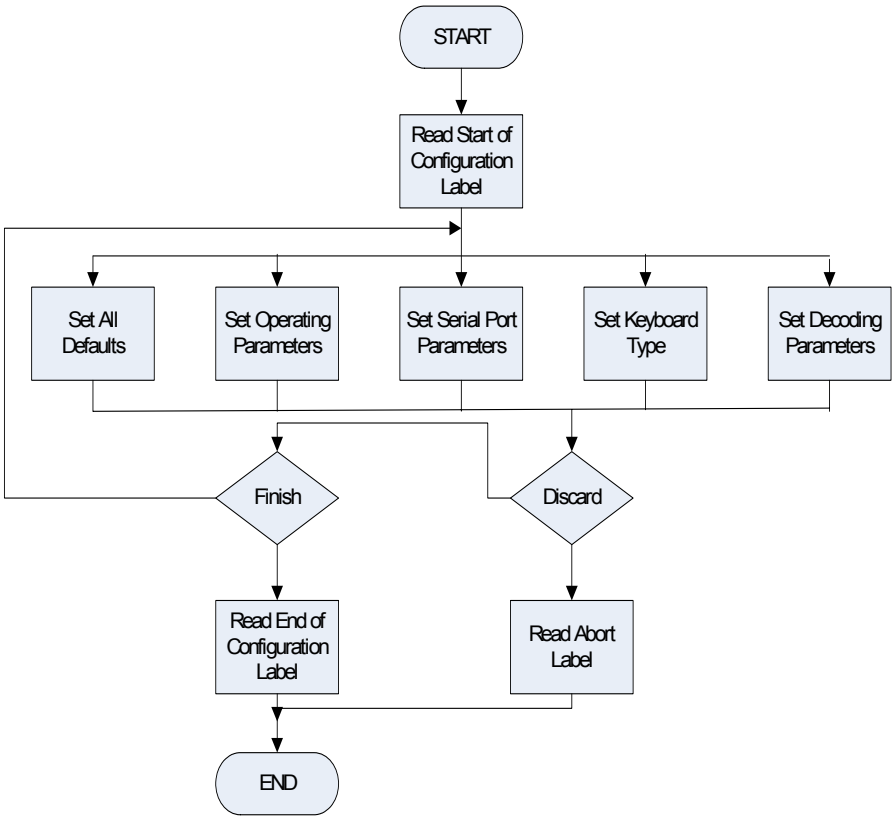
9-3. Factory Default Setting

Scanner Timing	Default
Same code delay	500msec
RS-232 communication	**Default**
Baud rate	9600
Parity	none
Data Bits	8
Stop Bit	1
RTS/CTS	off
Terminator	<CR><LF>
Keyboard Wedge Communication	**Default**
Terminal Type	PC/AT
Keyboard	US keyboard
Terminator	Enter(Alpha numeric)
USB Communication	**Default**
Terminator type	Enter
Code mode	Scan code
Keyboard	US keyboard
Wand Emulation	**Default**
Wand emulation speed	Normal
Data output	Black=high
Decoder Selection	**Default**
EAN/UPC	Enable
CODE 39	Enable
Code 32	Disable
CODABAR	Disable
ITF 2 OF 5	Enable
MSI	Disable
Chinese Post code	Disable
Code 93	Enable
Code 128	Enable
EAN-128	Disable
Beeper sound	**Default**
Frequency	Medium
Duration	100msec
Led/Beep Before transmission	On
Operating parameter	**Default**
Trigger mode(handheld mode)	Enable
Stand mode	Enable
Header and Trailer	None
Inter-Message delay	None
Inter character delay	None
Code Identifiers	**Default**
Identifier code as ZEBEX standard	Disable
Identifier code as AIM standard	Disable
Code 39 identifier code	M
ITF 2 of 5 identifier code	I
Chinese post code identifier code	H
UPC-A identifier code	A
UPC-E identifier code	E
EAN-13 identifier code	F
EAN-8 identifier code	FF
Codabar identifier code	N
Code 128 identifier code	K
Code 93 identifier code	L
MSI identifier code	P

9-4. Default data transmit format

Code	Message format
EAN-13	D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13
EAN-8	D1 D2 D3 D4 D5 D6 D7 D8
UPCA	D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12
UPCE	D1 D2 D3 D4 D5 D6 D7 D8
CODE128	D1-Dx (default 3~62)
EAN128	]C1 D1-Dx (default 3~62)
CODE39	D1-Dx (default 3~62)
CODABAR	D1-Dx (default 6~32)
INTERLEAVED 2/5	D1-Dx (default 6~32)
CHINESE POST CODE	D1-Dx (default 8~32)
CODE93	D1-Dx (default 3~32)
MSI	D1-Dx (default 6~32)

9-5. Program Procedure Using Barcode Manual



9-6. Parameter setting

The parameter can only be set in single-line scan mode. Refer to section 6-1 to switch to single line scan mode.
Note: Default values are highlighted in grey background.

Start Of Configuration

System Function Setting

Barcode Value	Description
	Reset (return to factory default)
	Display firmware version
	Return as customer default
	Save as customer default
	Return to USB default
	Return to wand emulation default
	Return to RS232 default
	IBM PC/AT/PS/2 Keyboard emulation
	Abort (exit programming mode(no update)

End Of Configuration

Start Of Configuration

Scan Function Setting

Handheld Operation

Normal Trigger mode
- The scanner becomes inactive as soon as the data is transmitted. It must be triggered to become active again.
  Handheld scan operation and function button is on

Auto Trigger mode
- The mode is auto object detect to active laser. Bar code data is transmitted when the trigger button is pressed
- Handheld scan operation and function button is on

Multi line trigger mode.
- The mode is multi line to scan barcode. Barcode data is transmitted when the trigger button is pressed

Handheld scan operation and function button is off

Multi line free mode.
- Pick the scanner and aim barcode to quick scan barcode and data is transmitted

Laser off when enter to sleep mode

Laser flash when enter to sleep mode

Blue LED/Red LED function as normal

Blue LED/Red LED reverse function

End Of Configuration

Start Of Configuration

Same Code Delay

50msec

200msec

400msec

600msec

800msec

100msec

300msec

500msec

700msec

1000msec

Infinite

End Of Configuration

Start Of Configuration

Double Field Support

The scanner allows user the freedom to decode two EAN-13 barcode to one scan.

Select at least 1 leading character for each barcode .The maximum is 4 characters for each barcode.

Double code not allowed

Double code free character setting

Double code seek timeout x 1

Double code seek timeout x 2

Double code seek timeout x 3

Double code seek timeout x 4

Double code seek timeout :Infinity

- A higher times timeout offer more seek time to catch double but will effect normal barcode performance.

Double code without separator

Double code with “Space” separator

Double Code Separator free setting
Only one ACSII character available

Save setting to confirm

End Of Configuration

Start Of Configuration

Example
To select 471 as the first three character in the first code pair1
And select 121 as the first three characters in the second code pair2.

The setting as following:
1. Scan “start of configuration” label to enter programming mode
2. Scan “Double code free character setting” label
3. Scan code byte “4” from ASCII code table
4. Scan code byte “7” from ASCII code table
5. Scan code byte “1” from ASCII code table
6. Scan “save setting to confirm” label to save first code pair setting
7. Scan code byte “1” from ASCII code table
8. Scan code byte “2” from ASCII code table
9. Scan code byte “1” from ASCII code table
10. Scan “save setting to confirm” label to save second code pair setting
11. Scan ”end of “configuration” label exit programming mode

Japanese Double Field Support

Enable Japanese Double Field setting will decode two Japanese book at one scan.

Japanese Double code enable

Double code not allowed

End Of Configuration

Start Of Configuration

Operation Function Setting

Good Read Beeper Tone Selection

Medium beeper tone

High beeper tone

Low beeper tone

Speaker disable

Beeper Sound Selection

Long

Medium

Short

Ultra Short

Ultra Long

Loud Volume

Medium Volume

Slight Volume

End Of Configuration

Start Of Configuration

Beeper Sound Selection (Cont'd)

Power-on tone enable

Power-on tone disable

LED/Beep after transmission.

- Use this bar code to indicate a "good read" after a bar code has been successfully decoded.

LED/Beep before transmission

- Use this bar code to indicate a good read" after successfully transmitting the bar code data to the host.

Inter Character Delay

0ms

2ms

5ms

10ms

20ms

50ms

Inter Message Delay

0 ms

100 ms

500 ms

1000 ms

End Of Configuration

Start Of Configuration

Interface Settings

1. RS-232C Interface Setting

Baud Rate

115200

19200

9600

4800

2400

1200

Parity Bit

Even parity

Odd parity

Mark parity

Space parity

None parity

Stop Bit

1 stop bit

2 stop bit

Data Bit

7 data bit

8 data bit

End Of Configuration

Start Of Configuration

Handshaking Protocol

None handshaking

ACK/NAK

Xon/Xoff

RTS/CTS

Enable BEEPER ON<BEL> CHARACTER

Ignore Beep on<BEL> character

Disable ACK/NAK timeout beeper

Enable ACK/NAK timeout beeper(three sound beeper sound)

ACK/NAK response time 300ms

ACK/NAK response time 2s

ACK/NAK response time 500ms

ACK/NAK response time 3s

ACK/NAK response time 1s

ACK/NAK response time 5s

ACK/NAK response time infinity

End Of Configuration

Start Of Configuration

Message Terminator

RS-232 message terminator—none

RS-232 message terminator—CR/LF

RS-232 message terminator—C

RS-232 message terminator—LF

RS-232 message terminator—H tab

RS-232 message terminator—STX/ETX

RS-232 message terminator—EOT

End Of Configuration

Start Of Configuration

2. Keyboard Wedge Setting

Keyboard Wedge Setting

IBM PC/AT/PS/2 Keyboard emulation

International Keyboard mode.(ALT method).

Keyboard language support---USA

Keyboard language support---UK send scan code

Keyboard language support---GERMANY

Keyboard language support---FRENCH send scan code

Keyboard language support---SPANISH send scan code

Keyboard language support---ITALIAN send scan code

Keyboard language support---Switzerland send scan code

Keyboard language support---Belgium send scan code

Keyboard language support---Japanese

Capital lock on

Capital lock off

Function key emulation enable

Function key emulation disable

Send number as normal data

Send number as keypad data

End Of Configuration

Start Of Configuration

Message Terminator

Keyboard terminator---none

Keyboard terminator---Enter

Keyboard terminator---H-TAB

End Of Configuration

Start Of Configuration

3. USB Interface Setting

USB interface

International Keyboard mode.(ALT method).

Keyboard language support---USA

Keyboard language support---GERMANY

Keyboard language support---FRENCH send scan code

Keyboard language support---SPANISH send scan code

Keyboard language support---Japanese

Message Terminator

Keyboard terminator---none

Keyboard terminator---Enter

Keyboard terminator---H-TAB

End Of Configuration

Start Of Configuration

4. Wand Emulation Setting

Wand emulation is not supported as standard, if needed, please contact your distributor.

Wand Emulation

All barcode will be decoded and transmitted in that symbology

Enable Wand output data format as CODE39

Wand emulation data output black=high

- Scan this bar code to set quiet zones and spaces low and bars =high.

Wand emulation data output black=low

- Scan this bar code to set quiet zones and spaces high and bars=low

Idle = high

- Idle state refers to the TTL logic level of the Wand Emulation signal when not in use

Idle = low

- Idle state refers to the TTL logic level of the Wand Emulation signal when not in use

End Of Configuration

Start Of Configuration

Wand Emulation (Cont'd)

Wand emulation speed-----Low

- This option allows the transmission of wand emulation at 1ms narrow element width

Wand emulation speed-----medium

- This option allows the transmission of wand emulation at 600us narrow element width

Wand emulation speed-----normal

Wand emulation speed-----high

- This option allows the transmission of wand emulation at 300us narrow element width

Wand emulation speed-----higher

- This option allows the transmission of wand emulation at 100 us narrow element width

Wand emulation narrow/wide ratio 1:2

Wand emulation narrow/wide ratio 1:3

End Of Configuration

Start Of Configuration

The Symbologies

CODABAR Parameter Setting

Codabar enable

Codabar start/stop character transmission-----DC1~DC4

CODABAR disable

Codabar start/stop character transmission-----a/t,b/n,c/*,d/e

Codabar start/stop character transmission-----none

Codabar maximum length setting

Codabar start/stop character transmission-----A,B,C,D

Codabar minimum length setting

Save setting to confirm (for length setting)

Codabar concatenation disable

Validate modulo 16 and transmit

Codabar concatenation enable

Codabar data redundant check=off

No check character

Codabar data redundant check=1

Validate modulo 16,but don't transmit

Codabar data redundant check=2

End Of Configuration

Start Of Configuration

Code 39 Parameter Setting

Code 39 enable

FULL ASCII code 39

Code 39 disable

Code 39 start/stop character transmission

Code 39 start/stop character without transmission

Code 32 enable

Code 32 disable

Code 39 check digit calculate and transmit

No check character

Code 39 check digit calculate but without transmit

Code 39 data redundant check=off

Code 39 data redundant check=1

Code 39 data redundant check=2

End Of Configuration

Start Of Configuration

Code 39 Parameter Setting (Cont'd)

Code 39 maximum length setting

Code 39 minimum length setting

Save setting to confirm (for length setting)

Code 39 concatenation enable

Code 39 concatenation disable

Code 32 (Italian pharmacy) transmit "A" character

Code 32 (Italian pharmacy) without transmit "A" character

End Of Configuration

Start Of Configuration

Code 93 Parameter Setting

Code 93 enable

Code 93 disable

Code 93 data redundant check=off

Code 93 data redundant check=1

Code 93 data redundant check=2

Code 93 maximum length setting

Code 93 minimum length setting

Save setting to confirm (for length setting)

Code 93 check digit calculate but without transmit

Code 93 check digit not calculate and without transmit

Code 93 check digit calculate and transmit

End Of Configuration

Start Of Configuration

Code 128

Code 128 enable

Code 128 disable

EAN 128 enable

EAN 128 disable

Code128 FNC2 concatenation enable

Code128 FNC2 concatenation disable

Code 128 data redundant check=off

Code 128 data redundant check=1

Code 128 data redundant check=2

Code 128 maximum length setting

Code 128 minimum length setting

Save setting to confirm (for length setting)

End Of Configuration

Start Of Configuration

Chinese Post Code

Chinese post code enable

Chinese post code disable

Chinese post codedata redundant check=off

Chinese post code data redundant check=1

Chinese post codedata redundant check=2

Chinese post code maximum length setting

Chines post code code minimum length setting

Save setting to confirm (for length setting)

End Of Configuration

Start Of Configuration

MSI/Plessy

MSI enable

MSI disable

MSI data redundant check= off

MSI data redundant check=1

MSI data redundant check=2

MSI/PLESSY maximum length setting

MSI/PLESSY minimum length setting

Save setting to confirm (for length setting)

MSI/Plessy double check digit calculate but not transmit

MSI/Plessy double check digit calculate and both transmit

MSI/Plessy double check digit without calculate and transmit

MSI/Plessy single check digit calculate but without transmit

MSI/Plessy double check digit calculate but only first digit transmit

MSI/Plessy single check digit calculate and transmit

End Of Configuration

Start Of Configuration

ITF 2 of 5

ITF 2 of 5 enable

ITF 2 of 5 disable

IATA code enable

IATA disable

ITF 2 of 5 check digit calculate and transmit

ITF 2 of 5 check digit calculate but without transmit

ITF 2 of 5 no check character

ITF 2 of 5 one Fixed length setting

ITF 2 of 5 two Fixed length setting

ITF 25 data redundant check=off

ITF25 data redundant check=1

ITF25 data redundant check=2

ITF 2 of 5 code minimum length setting

ITF 2 of 5 length variable

ITF 2 of 5 code maximum length setting

Save setting to confirm (for length setting)

End Of Configuration

Start Of Configuration

UPC/EAN/JAN

EAN convert toISSN/ISBN enable

EAN convert to ISSN.ISBN disable

UPC/EAN/JAN ALL ENABLE

EAN-8 ENABEL

UPC-A AND EAN-13 ENABLE

EAN-8 OR EAN-13 ENABLE

UPC-A AND UPC-E ENABLE

UPC-E ENABLE

EAN-13 ENABLE

UPC-A ENABEL

UPC/EAN Addendum Disable

Add on 5 only

Add on 2 only

Add on 2 or 5

Force UPC-E to UPC-A format enable

Force UPC-E to UPC-A format disable

End Of Configuration

Start Of Configuration

UPC/EAN/JAN (Cont'd)

Force UPC-A to EAN-13 format enable

Force UPC-A to EAN-13 format disable

Transmit UPC-A check digit enable

Transmit UPC-A check digit disable

Transmit UPC-E check digit enable

Transmit UPC-E check digit disable

Transmit UPC-E leading character enable

Transmit UPC-E leading character disable

Transmit UPC-A leading character enable

Transmit UPC-A leading character disable

Transmit EAN-13 check digit disable

Transmit EAN-13 check digit enable

Transmit EAN-8 check digit enable

Transmit EAN-8 check digit disable

End Of Configuration

Start Of Configuration

UPC/EAN/JAN (continued)

force EAN-8 to EAN-13 format enable

force EAN-8 to EAN-13 format disable

EAN-13 country code first “0” can transmitted

EAN-13 country code first:”0” can’t transmitted

Add-on format with separator

Add-on format without separator

EAN/UPC +add-on (none mandatory)

EAN/UPC +add-on (mandatory)

EAN/UPC +add-on mandatory for 378/379 French Supplement requirement, not sent for other

EAN/UPC +add-on mandatory for 978/977 (bookland) Supplement requirement, not sent for other

EAN/UPC +addon mandatory for 434/439 German Supplement requirement, optionally for other

EAN/UPC +addon mandatory for 491 Japanese (bookland) Supplement requirement, not sent for other

End Of Configuration

Start Of Configuration

UPC/EAN/JAN (continued)

EAN/UPC +addon mandatory for 419/414 Euro amounts Supplement requirement, not sent for other

EAN/UPC +addon mandatory for 414/419 Euro Supplement requirement, optionally for other

EAN/UPC +addon mandatory 491 Japanese (bookland) Supplement requirement, optionally for other

Disable all EAN/OPC + Add-on mandatory for specific country code

EAN/UPC +add-on mandatory for 414/419/378/379/978/977/434/439/529/ Euro Supplement requirement, optionally for other

EAN/UPC +add-on mandatory for 414/419/378/379/978/977/434/439/529/ Euro Supplement requirement, not sent for other

Addendum seek timeout value=1

Addendum seek timeout value=2

Addendum seek timeout value=3

End Of Configuration

Start Of Configuration

Addendum Seek Timeout

Note: A higher timeout value setting offer more assurance that an addendum has been read correctly while a lower setting allows faster scanning performance.

Addendum seek timeout value=4

Addendum seek timeout value=5

Addendum seek timeout value=6

Addendum seek timeout value=7

Addendum seek timeout value=8

Addendum seek timeout value=9

Addendum seek timeout value=10

2 digit addendum data redundant check=off

2 digit addendum data redundant check=1

2 digit addendum data redundant check=2

2 digit addendum data redundant check=3

5 digit addendum data redundant check=off

5 digit addendum data redundant check=1

5 digit addendum data redundant check=2

5 digit addendum data redundant check=3

End Of Configuration

Start Of Configuration

Data Editing

Identifier Code

Disable identifier code

Enable identifier code table as ZEBEX standard

Enable identifier code table as AIM standard.

UPC-A identifier code setting

EAN-13 identifier code setting

EAN-8 identifier code setting

CODE 39 identifier code setting

CODABAR identifier code setting

ITF 2 of 5 identifier code setting

CODE 128 identifier code setting

CHINESE POST CODE identifier code setting

CODE 93 identifier code setting

UPC-E identifier code setting

MSI identifier code setting

Save setting to confirm (for length setting)

Add code length as header enable (2 Bytes)

Add code length as header disable (2 Bytes)

End Of Configuration

Start Of Configuration

Header And Trailer

Header (Preamble)

Trailer (Postamble)

Truncate header character

Truncate trailer character

End Of Configuration

Start Of Configuration

Full ASCII Code 39 Table

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---NUL	00		Full ASCII ---SI Function key-----“Shift”	0F
	Full ASCII ---SOH Function key-----“Ins”	01		Full ASCII ---DLE Function key-----“5(num)”	10
	Full ASCII ---STX Function key-----“Del”	02		Full ASCII ---DC1 Function key-----“F1”	11
	Full ASCII ---ETX Function key-----“Home”	03		Full ASCII ---DC2 Function key-----“F2”	12
	Full ASCII ---EOT Function key-----“End”	04		Full ASCII ---DC3 Function key-----“F3”	13
	Full ASCII ---ENQ Function key-----“Up arrow”	05		Full ASCII ---DC4 Function key-----“F4”	14
	Full ASCII ---ACK Function key-----“Down arrow”	06		Full ASCII ---NAK Function key-----“F5”	15
	Full ASCII ---BEL Function key-----“Left arrow”	07		Full ASCII ---SYN Function key-----“F6”	16
	Full ASCII ---BS Function key-----“Backspace”	08		Full ASCII ---ETB Function key-----“F7”	17
	Full ASCII ---HT Function key-----“TAB”	09		Full ASCII ---CAN Function key-----“F8”	18
	Full ASCII ---LF Function key-----“Enter (alpha numeric”	0A		Full ASCII ---EN Function key-----“F9”	19
	Full ASCII ---VT Function key-----“right arrow”	0B		Full ASCII ---SUB Function key-----“F10”	1A
	Full ASCII ---FF Function key-----“PgUp”	0C		Full ASCII ---ESC Function key-----“F11”	1B
	Full ASCII ---CR Function key-----“Enetr(num.)”	0D		Full ASCII ---FS Function key-----“F12”	1C
	Full ASCII ---SO Function key-----“PgDn”	0E		Full ASCII ---GS Function key-----“ESC”	1D

End Of Configuration

Start Of Configuration

Full ASCII Code 39 Table (continued)

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---RS Function key-----"CTL(L)"	1E		Full ASCII ----	2D
	Full ASCII ---US Function key-----"ALT(L)"	1F		Full ASCII ---.	2E
	Full ASCII ---SP	20		Full ASCII ---/	2F
	Full ASCII ---!	21		Full ASCII ---0	30
	Full ASCII ---"	22		Full ASCII ---1	31
	Full ASCII ---#	23		Full ASCII ---2	32
	Full ASCII ---$	24		Full ASCII ---3	33
	Full ASCII ---%	25		Full ASCII ---4	34
	Full ASCII ---&	26		Full ASCII ---5	35
	Full ASCII ---'	27		Full ASCII ---6	36
	Full ASCII --- (	28		Full ASCII ---7	37
	Full ASCII ---)	29		Full ASCII ---8	38
	Full ASCII ---*	2A		Full ASCII ---9	39
	Full ASCII ---+	2B		Full ASCII ---:	3A
	Full ASCII ---,	2C		Full ASCII ---;	3B

End Of Configuration

Full ASCII Code 39 Table (continued)

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---<	3C		Full ASCII ---K	4B
	Full ASCII ---=	3D		Full ASCII ---L	4C
	Full ASCII --->	3E		Full ASCII ---M	4D
	Full ASCII ---?	3F		Full ASCII ---N	4E
	Full ASCII ---@	40		Full ASCII ---O	4F
	Full ASCII ---A	41		Full ASCII ---P	50
	Full ASCII ---B	42		Full ASCII ---Q	51
	Full ASCII ---C	43		Full ASCII ---R	52
	Full ASCII ---D	44		Full ASCII ---S	53
	Full ASCII ---E	45		Full ASCII ---T	54
	Full ASCII ---F	46		Full ASCII ---U	55
	Full ASCII ---G	47		Full ASCII ---V	56
	Full ASCII ---H	48		Full ASCII ---W	57
	Full ASCII ---I	49		Full ASCII ---X	58
	Full ASCII ---J	4A		Full ASCII ---Y	59

Start Of Configuration

Full ASCII Code 39 Table (continued)

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---Z	5A		Full ASCII ---i	69
	Full ASCII ---[	5B		Full ASCII ---j	6A
	Full ASCII ---\	5C		Full ASCII ---k	6B
	Full ASCII ---]	5D		Full ASCII ---l	6C
	Full ASCII ---^	5E		Full ASCII ---m	6D
	Full ASCII ---_	5F		Full ASCII ---n	6E
	Full ASCII ---`	60		Full ASCII ---o	6F
	Full ASCII ---a	61		Full ASCII ---p	70
	Full ASCII ---b	62		Full ASCII ---q	71
	Full ASCII ---c	63		Full ASCII ---r	72
	Full ASCII ---d	64		Full ASCII ---s	73
	Full ASCII ---e	65		Full ASCII ---t	74
	Full ASCII ---f	66		Full ASCII ---u	75
	Full ASCII ---g	67		Full ASCII ---v	76
	Full ASCII ---h	68		Full ASCII ---w	77

End Of Configuration

Start Of Configuration

Full ASCII Code 39 Table (continued)

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---x	78		Full ASCII ---|	7C
	Full ASCII ---y	79		Full ASCII ---}	7D
	Full ASCII ---z	7A		Full ASCII ---~	7E
	Full ASCII ---{	7B		Full ASCII ---DEL	7F

End Of Configuration